

WHAT IS CLAIMED IS:

1. A method for identifying frequently accessed domain names in a customer premises equipment that includes a memory and a communication interface, the frequently accessed domain names to be provided to a network gateway for use in domain name system caching, comprising:
 - searching files in the memory to identify the frequently accessed domain names; and
 - providing the frequently accessed domain names to the communication interface for transmission to the network gateway over a communication path.
2. The method of claim 1, wherein the customer premises equipment runs an operating system, and wherein said searching and said providing are initiated during start-up of said operating system.
3. The method of claim 1, wherein the customer premises equipment runs an operating system, and wherein said searching and said providing are initiated periodically by said operating system.
4. The method of claim 1, wherein said searching and said providing occur in response to the execution of an application by a user of the customer premises equipment.
5. The method of claim 1, wherein said searching files comprises searching files associated with a Web browser.
6. The method of claim 1, wherein said searching files comprises searching files associated with an electronic mail application.

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7. The method of claim 1, wherein said providing the frequently accessed domain names to the communication interface comprises packetizing the frequently accessed domain names and providing said packetized information to the communication interface.

8. The method of claim 1, wherein said providing the frequently accessed domain names to the communication interface comprises storing the frequently accessed domain names in a management information base and providing said management information base to the communication interface.

9. The method of claim 1, wherein said providing the frequently accessed domain names to the communication interface comprises generating a domain name system query that includes said frequently accessed domain name and providing said domain name system query to the communication interface.

10. A method for selectively caching domain name system information on a network gateway that includes a cache, wherein the network gateway is attached to a customer premises equipment that includes a memory, comprising:

searching files in the memory to identify a frequently accessed domain name;

providing said frequently accessed domain name from the customer premises equipment to the network gateway;

generating, in the gateway, a domain name system query that includes said frequently accessed domain name;

transmitting said domain name system query from the network gateway to a network for resolution;

receiving, in the gateway, a response to said domain name system query from said network that includes said frequently accessed domain name and a corresponding IP address; and

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storing said frequently accessed domain name and said corresponding IP address in the cache.

11. The method of claim 10, wherein the customer premises equipment runs an operating system, and wherein said searching and said providing are initiated during start-up of said operating system.

12. The method of claim 10, wherein the customer premises equipment runs an operating system, and wherein said searching and said providing are initiated periodically by said operating system.

13. The method of claim 10, wherein said searching and said providing occur in response to the execution of an application by a user of the customer premises equipment.

14. The method of claim 10, wherein said searching files comprises searching files associated with a Web browser.

15. The method of claim 10, wherein said searching files comprises searching files associated with an electronic mail application.

16. The method of claim 10, wherein said providing said frequently accessed domain name to the network gateway comprises packetizing said frequently accessed domain name and transmitting said packetized information to the network gateway.

17. The method of claim 10, wherein said providing said frequently accessed domain name to the network gateway comprises storing said frequently accessed domain name in a management information base and providing said management information base to the network gateway.

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18. The method of claim 10, wherein said transmitting said domain name system query from the network gateway to a network for resolution comprises transmitting said domain name system query to a domain name server on said network for resolution.

19. The method of claim 10, wherein said generating a domain name system query comprises generating a domain name system query in accordance with an iterative resolution protocol.

20. The method of claim 10, further comprising:
receiving, in the network gateway, a domain name system query from the customer premises equipment; and
resolving, in the network gateway, said domain name system query from the customer premises equipment using a domain name and corresponding IP address stored in the cache.

21. A method for selectively caching domain name system information on a network gateway that includes a cache, wherein the network gateway is attached to a customer premises equipment that includes a memory, comprising:
searching files in the memory to identify a frequently accessed domain name;
generating, in the customer premises equipment, a domain name system query that includes said frequently accessed domain name;
providing said domain name system query from the customer premises equipment to the network gateway;
transmitting said domain name system query from the network gateway to a network for resolution;

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receiving, in the gateway, a response to said domain name system query from said network that includes said frequently accessed domain name and a corresponding IP address; and

storing said frequently accessed domain name and said corresponding IP address in the cache.

22. A customer premises equipment, comprising:

a memory that stores files;

a communication interface for transmitting information to a network gateway; and

a processor coupled to said memory and said communication interface;

wherein said processor is configured to search said files in the memory to identify frequently accessed domain names and to provide said frequently accessed domain names to said communication interface for transmission to said network gateway.

23. The customer premises equipment of claim 22, wherein said memory comprises a hard disk drive.

24. The customer premises equipment of claim 22, wherein said communication interface is a home phoneline network interface, an Ethernet interface or a Universal Serial Bus interface.

25. The customer premises equipment of claim 22, wherein said files are associated with a Web browser.

26. The customer premises equipment of claim 22, wherein said files are associated with an electronic mail application.

27. The customer premises equipment of claim 22, wherein said processor is configured to provide said frequently accessed domain names to said communication interface by packetizing said frequently accessed domain names and providing said packetized information to said communication interface.

28. The customer premises equipment of claim 22, wherein said processor is configured to provide said frequently accessed domain names to said communication interface by storing said frequently accessed domain names in a management information base and providing said management information base to said communication interface.

29. The customer premises equipment of claim 22, wherein said processor is configured to provide said frequently accessed domain names to said communication interface by generating a domain name system query that includes said frequently accessed domain name and providing said domain name system query to said communication interface.

30. A system for selectively caching domain name system information in a network gateway, comprising:

a customer premises equipment (CPE) including a memory that stores files, a communication interface for transmitting information over a communication path, and a CPE processor coupled to said memory and said communication interface, wherein said CPE processor is configured to search said files to identify a frequently accessed domain name and to provide said frequently accessed domain name to said communication interface for transmission over said communication path; and

a network gateway including a cache, a CPE interface for receiving information over said communication path, a network interface for transmitting information over a network, and a gateway processor coupled to said cache, said CPE interface, and said network interface, said gateway processor configured to

2025 RELEASE UNDER E.O. 14176

receive said frequently accessed domain name from said communication path via said CPE interface, to generate a domain name system query that includes said frequently accessed domain name, to provide said query to said network interface for transmission to a network for resolution, to receive a response to said query from said network via said network interface that includes said frequently accessed domain name and a corresponding IP address, and to store said frequently accessed domain name and said corresponding IP address in said cache.

31. The system of claim 30, wherein said memory in said customer premises equipment comprises a hard disk drive.

32. The system of claim 30, wherein said communication path is a home phoneline network, an Ethernet, or a Universal Serial Bus.

33. The system of claim 30, wherein said files are associated with a Web browser.

34. The system of claim 30, wherein said files are associated with an electronic mail application.

35. The system of claim 30, wherein said CPE processor is configured to provide said frequently accessed domain name to said communication interface by packetizing said frequently accessed domain name and providing said packetized information to said communication interface.

36. The system of claim 30, wherein said CPE processor is configured to provide said frequently accessed domain name to said communication interface by storing said frequently accessed domain name in a management information base and providing said management information base to said communication interface.

37. The system of claim 30, wherein said network interface transmits said query to a domain name server on said network for resolution.

38. The system of claim 30, wherein said gateway processor is configured to generate said domain name system query in accordance with an iterative resolution protocol.

39. A computer program product comprising a computer useable medium having computer program logic for enabling a processor in a customer premises equipment to identify frequently accessed domain names to be provided to a network gateway for use in domain name system caching, the customer premises equipment further including a memory and a communication interface, comprising:

means for enabling the processor to search files in the memory to identify the frequently accessed domain names; and

means for enabling the processor to provide the frequently accessed domain names to the communication interface for transmission to the network gateway.

40. The computer program product of claim 39, wherein said files for comprise files associated with a Web browser.

41. The computer program product of claim 39, wherein said files comprise files associated with an electronic mail application.

42. The computer program product of claim 39, wherein said means for enabling the processor to provide the frequently accessed domain names to the communication interface comprises means for enabling the processor to packetize

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the frequently accessed domain names and provide said packetized information to the communication interface.

43. The computer program product of claim 39, wherein said means for enabling the processor to provide the frequently accessed domain names to the communication interface comprises means for enabling the processor to store the frequently accessed domain names in a management information base and provide said management information base to the communication interface.

44. The computer program product of claim 39, wherein said means for enabling the processor to provide the frequently accessed domain names to the communication interface comprises means for enabling the processor to generate a domain name system query that includes said frequently accessed domain name and provide said domain name system query to the communication interface.

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